

MIB MASTER-BILT[®] Refrigeration Solutions



IM-38, IM-60 & IM-45G

INSTALLATION & OPERATIONS MANUAL

MASTER-BILT Products
908 Highway 15 North
New Albany, MS 38652
Phone: 800-6848988

REV 2-29-12
By: LN

TABLE OF CONTENTS

| | | |
|--------------|-----------------------------------------------------|--------------|
| I. | PACKAGING..... | 3 |
| II. | INSTALATION..... | 3 |
| III. | OPERATIONS..... | 3-5 |
| | 1. Electrical..... | 3 |
| | 2. Temperature Control..... | 4 |
| | 3. Loading Ice..... | 5 |
| IV. | MAINTENANCE..... | 5 |
| | 1. Refrigeration..... | 5 |
| | 2. Defrosting..... | 5 |
| | A. Cold Wall (CW) | |
| | B. Auto-Defrost (AD) | |
| | C. Condensate Evaporator | |
| | 3. Electrical..... | 6 |
| | 4. Door(s)..... | 6 |
| | A. Gasket(s) | |
| | B. Hinges | |
| | 5. Cleaning..... | 7 |
| V. | COLD WALL WIRING DIAGRAM..... | 8 |
| VI. | COLD WALL TROUBLE SHOOTING FLOWCHART..... | 9 |
| VII. | AUTO-DEFROST WIRING DIAGRAM..... | 10 |
| VIII. | AUTO-DEFROST TROUBLE SHOOTING FLOWCHART..... | 11 |
| IX. | REPLACEMENT PARTS..... | 12-13 |
| X. | WARRANTY..... | 14 |

THINK SAFETY



Read **CAUTION** highlighted statements and merchandiser labels

NOTE:

Electrical and refrigeration repair work should be done by licensed electrician or Refrigeration Company

Material and product improvement is a continuous commitment at Factory. This manual is subject to modification or change without notice and without incurring responsibility for previously sold merchandisers and components

I. PACKAGING

Remove plastic overwrap, banding and corrugation packaging. The wooden skid is removed by unscrewing 6-8 hex head screws holding the skid. Glass Door Models: Remove glass door support bracket(s) and protective foam block(s).

All merchandisers are tested, inspected and carefully packaged to ensure each unit arrives ready for operation. Please return postage paid warranty card to activate merchandiser warranty. (See back page of manual) Retain for future reference.

Note: Merchandiser should be moved close to an upright position. If merchandiser is tilted 45° past vertical, it is recommended the unit not be used for a time equal to the time it was not vertical. This will allow the compressor lubricant to return to level for designed operation.

II. INSTALLATION

The merchandiser installation location should have a solid level base. If merchandiser is not level, the self-closing doors on upright models may not close or seal properly. The installation location must also provide good air flow for designed refrigeration system operation. **DO NOT** block refrigeration grill openings. Grill blockage may result in compressor failure.

Outdoor merchandisers: Locations shaded from sunlight are recommended for more economical operation. Auto-defrost models: Leave sufficient space behind merchandiser to prevent the drain hose from being kinked or obstructed. A blocked hose will not allow unit cooler condensate water drainage.

Indoor merchandisers: Locations must keep the area above and within full top cover clear from storage items or from obstructions. As per above, location must provide good air flow for designed refrigeration system. Auto-defrost glass door models: Remove condensate evaporator carton from inside merchandiser and install evaporator on back of merchandiser per instruction sheet inside carton. (Screwdriver required) Optional item installation: Refer to instruction sheet inside carton.

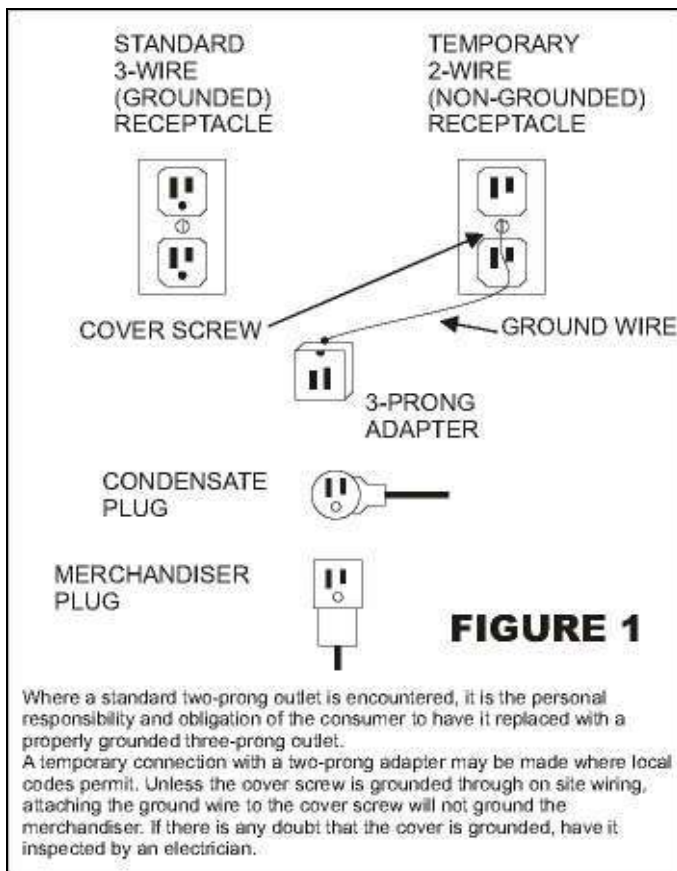
III. OPERATION

1. Electrical: The electrical voltage and frequency cycle at installation site must coincide with merchandiser decal serial label. Electrical service connections must be in accordance with the National Electrical Code, state code and any local code that may apply. All merchandisers are wired to a polarized power cord with 3-prong plug.



CAUTION: Improper use or removal of the grounding plug can result in risk of electrical shock.

The merchandiser must be plugged into a 115 volt, 60 HZ grounded receptacle electrical outlet with a circuit fuse or breaker. (See figure 1). The condensing unit data plate will indicate the maximum fuse/breaker size. DO NOT use extension cords. Extension cords may decrease the voltage to the unit and ultimately cause the compressor to fail.



NOTE: Some outdoor locations require ground fault interrupt (GFI) outlets. These outlets may trip upon condensing unit start. Refrigeration equipment is exempt in some areas from GFI requirements. Local electric codes should be checked.

Plug merchandiser power cord into lower receptacle of electrical outlet. The condensing unit will start, the light will illuminate on glass door models, and unit cooler evaporator fans will start on Auto-Defrost models. The condensing unit will continue to run until air temperature in cabinet is approximately +18° F. If merchandiser has a condensate evaporator, plug evaporator power cord into upper receptacle of electrical outlet and heater rod will heat.

2. Temperature Control: Cabinet temperature is maintained by cycling the condensing unit automatically with a thermostat. On Auto-Defrost models, the thermostat is located on the left end of unit cooler cover. On Cold Wall models, the thermostat is located on a bracket under the condensing unit cover. (The thermostat for Low Profile Cold Wall models is located on bracket at upper rear interior).

The temperature is adjusted by turning the control knob. Turning the control knob fully counterclockwise will shut off power to compressor. **DO NOT** readjusts the internal adjustments of the control without consulting factory.

3. Loading Ice: After merchandiser is operating at required temperature, load with packaged ice. Stacked packaged ice should not exceed heights that will cause poor refrigeration efficiency. Approximately 6" needs to be clear from top of stacked ice to top of inside interior for effective refrigerated ice storage. Auto-Defrost units require good fan air flow for effective circulation. **DO NOT** block evaporator assembly fan/grill openings and air channels require unrestricted air flow convection around packaged ice. Cold Wall units should have ice stacked to allow air access to thermostat sensor located at upper rear interior.

IV. MAINTENANCE



CAUTION: Disconnect power plug before maintenance on electrical components to avoid risk of electrical shock

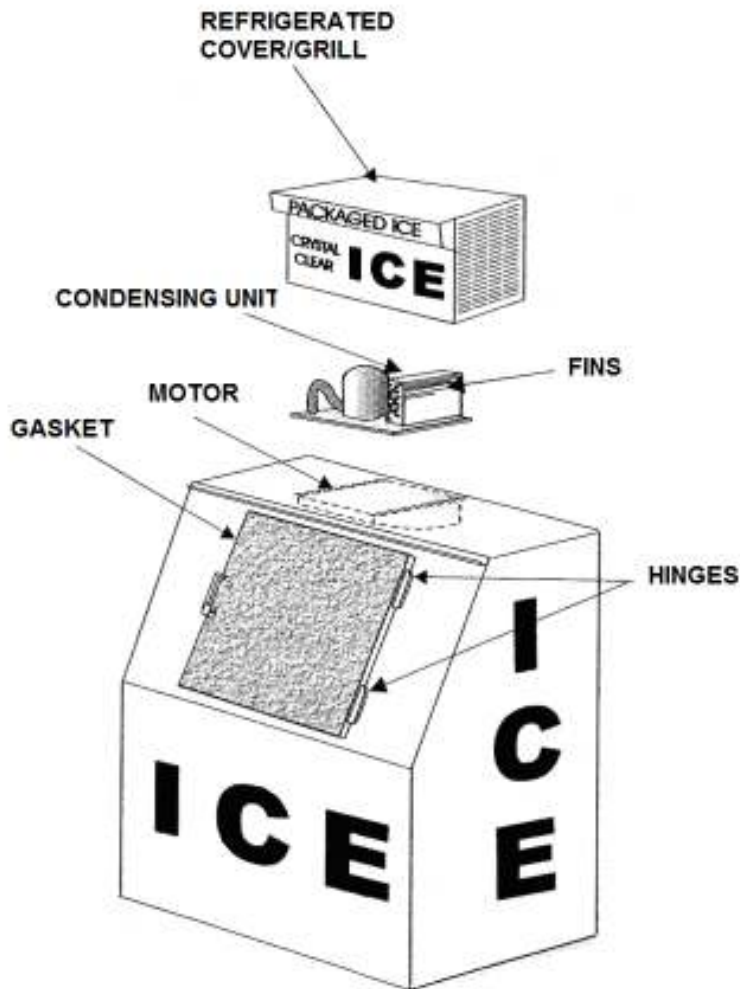
1. Refrigeration: Clean refrigeration cover grill openings, condenser fins, and condenser fan blades every three (3) months or more often if refrigeration is exposed to dusty environment. A dirty condensing unit can cause merchandiser to become less efficient, and may lead to compressor failure.

Note: DO NOT place any type of filter media for dust/dirt collection in front of condenser coil. Testing has shown filter media alone creates restricted air flow

2. Defrosting: Frost forms on the evaporator when door is opened and warm air enters merchandiser.
 - A. Auto-Defrost (AD) Evaporator: Auto-Defrost merchandisers utilize a unit cooler evaporator with an electric defrost heating element to melt the frost off the evaporator coil. The defrost cycle is controlled by a defrost timer which energizes a defrost heating element every four (4) hours for 14 to 16 minutes.

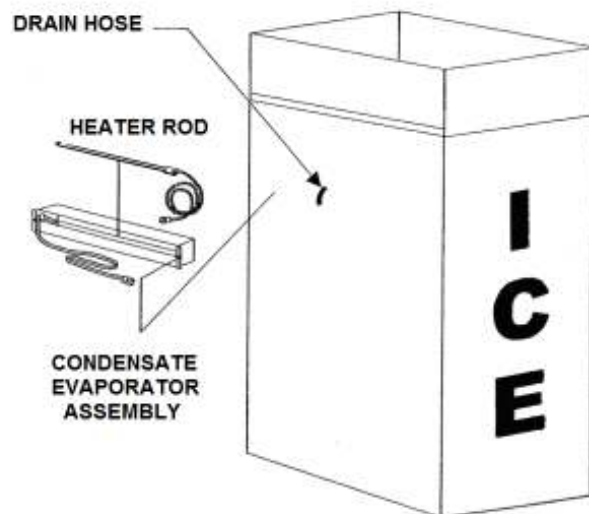
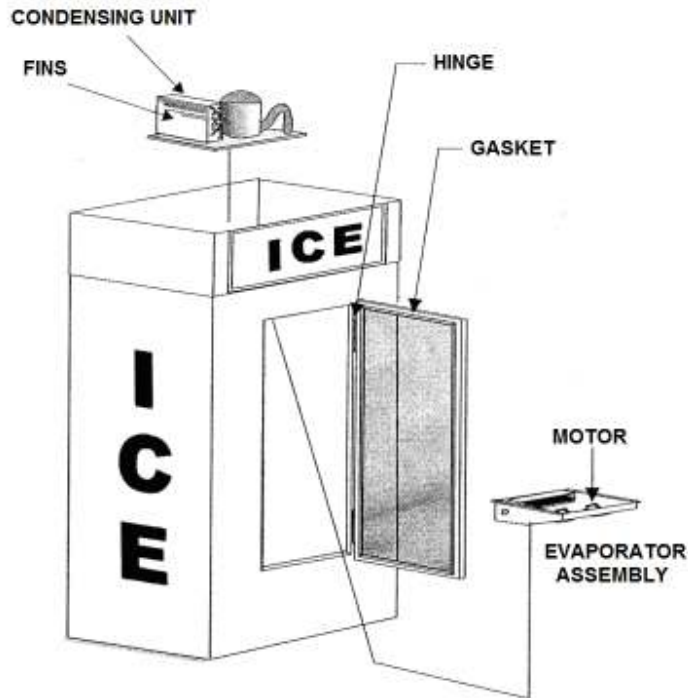
Before each reloading of packaged ice: Inspect operation of unit cooler fan motor(s). Replace motor(s) not operating or merchandiser refrigeration will not work effectively. Inspect unit cooler drain hose to be sure it is not kinked or plugged. Water must drain to condensate evaporator for designed operation. (See condensate evaporation maintenance)
 - B. Cold Wall (CW) Evaporator: Cold Wall merchandisers utilize the merchandiser's interior wall surface as the refrigeration evaporator. Therefore, frost accumulation will occur on all wall surfaces. The merchandiser can be defrosted using a wooden paddle, plastic scraper, or hot air. **DO NOT** use a sharp instrument to "chop" the frost as you may penetrate wall and refrigerant tubing and do irreparable damage. A drain plug is located under the ice pallet to help allow water to drain.
 - C. Condensate Evaporator: Inspect operation and condition of evaporator every three (3) months. The heating rod should be heating and examined for excessive corrosion. Failure of the heating rod to heat properly can result in the drain pan water overflowing. Also, accumulative dust buildup may limit proper operation of the unit.

3. Electrical: Inspect each month all power harnesses for any cracks, abrasions or damage to connection plugs. Replace any defective wiring or harnesses.
4. Door(s): Inspect each month for component wear, function and secure attachment.
 - A. Gasket(s) should be examined for tears or any other problems that would cause loss of seal. Replace torn/worn gaskets to maintain correct temperature and refrigeration efficiency.

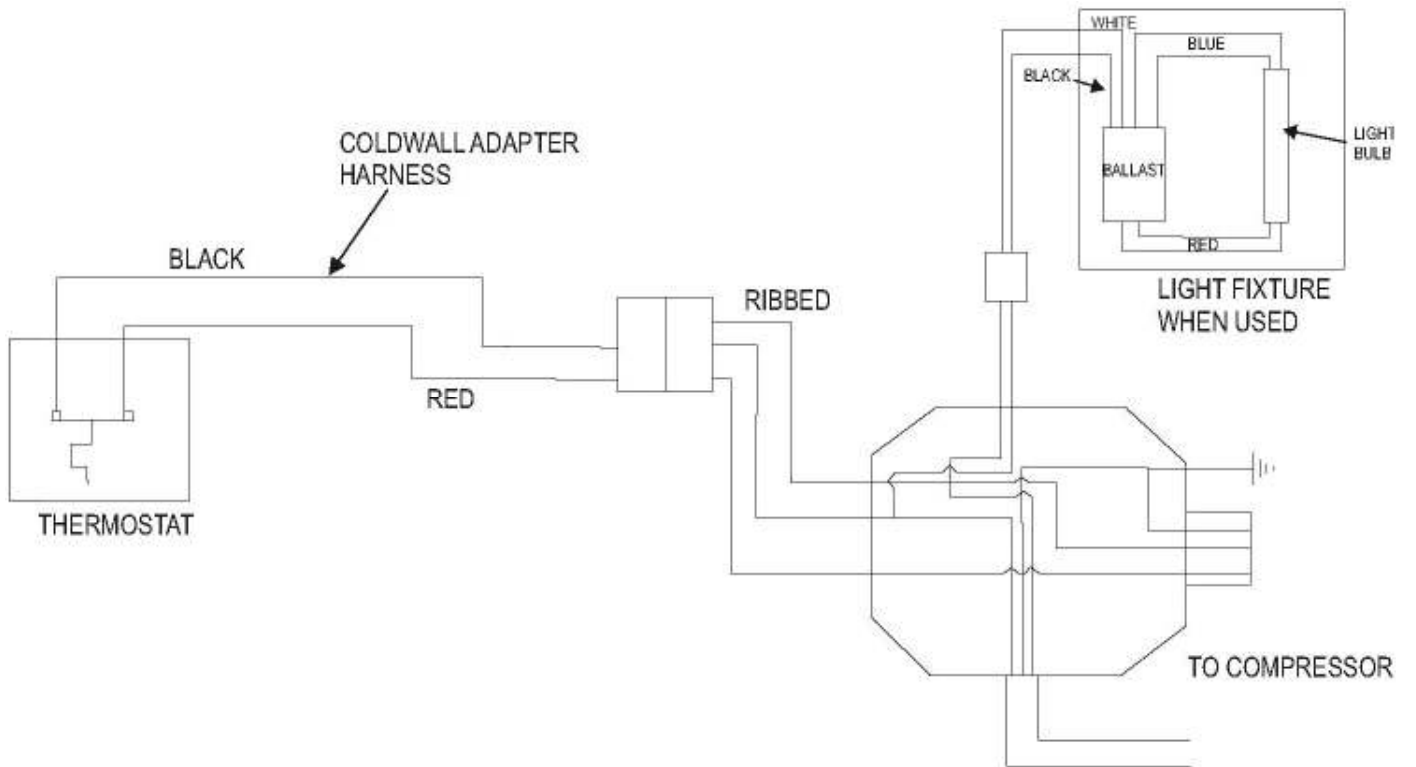


- B. Hinges exposed to harsh environmental conditions may require a lubricant for ease of operation. Spray a light penetrating oil on hinge pivot points to ease the work load and extend life of hinge. Tighten any loose screws.

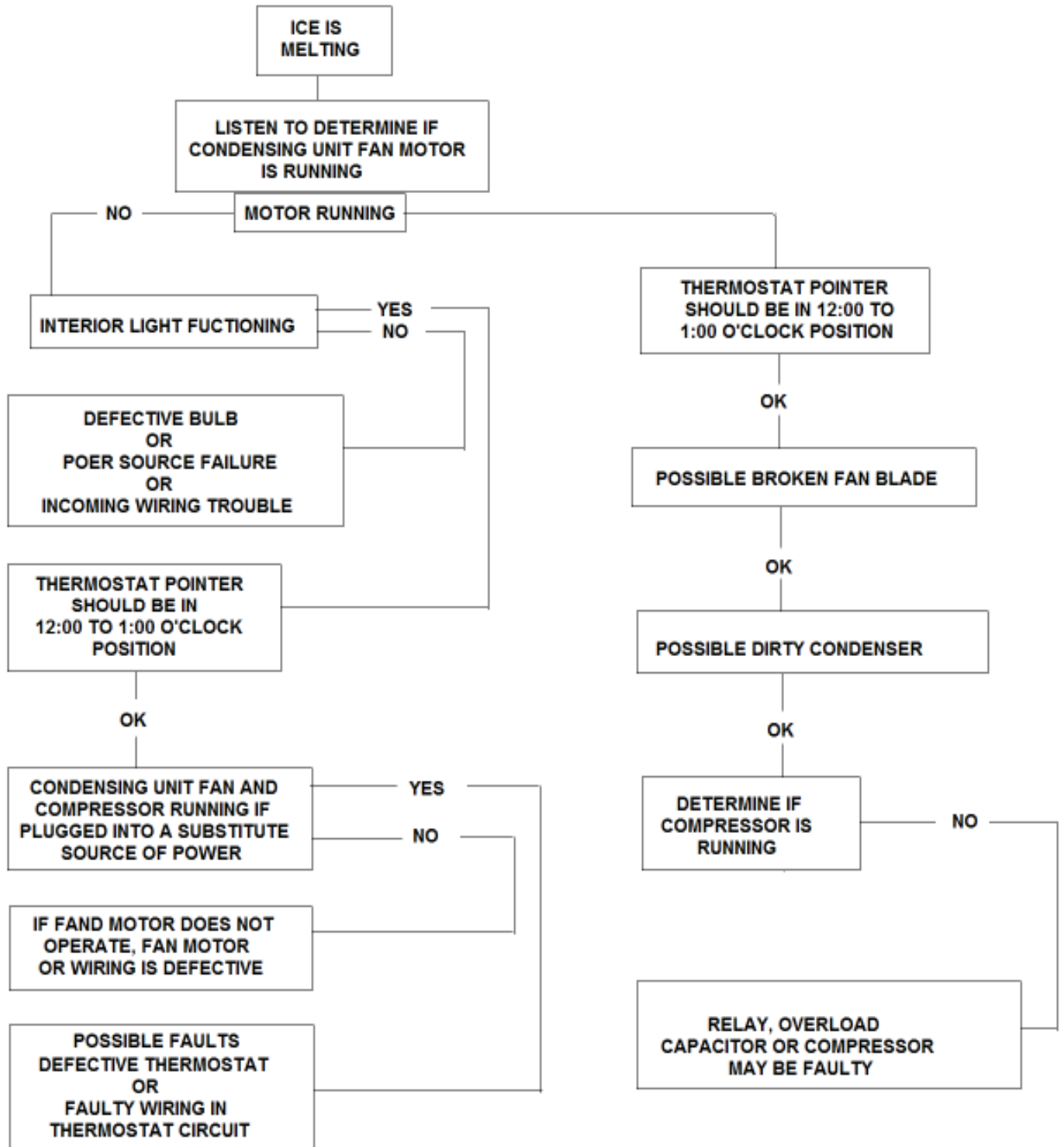
5. Cleaning: Schedule yearly cleaning of merchandiser interior with solution of 8 tablespoons of baking soda to 1 gallon of warm water. **DO NOT** use strong detergents, abrasive cleansers, solvents, wax or polish as they are likely to leave objectionable odors which may be absorbed by the ice. Wash the outside surfaces with a mild soap and warm water applied with a soft sponge or cloth. Wax exterior to maintain appearance and extend life of paint.



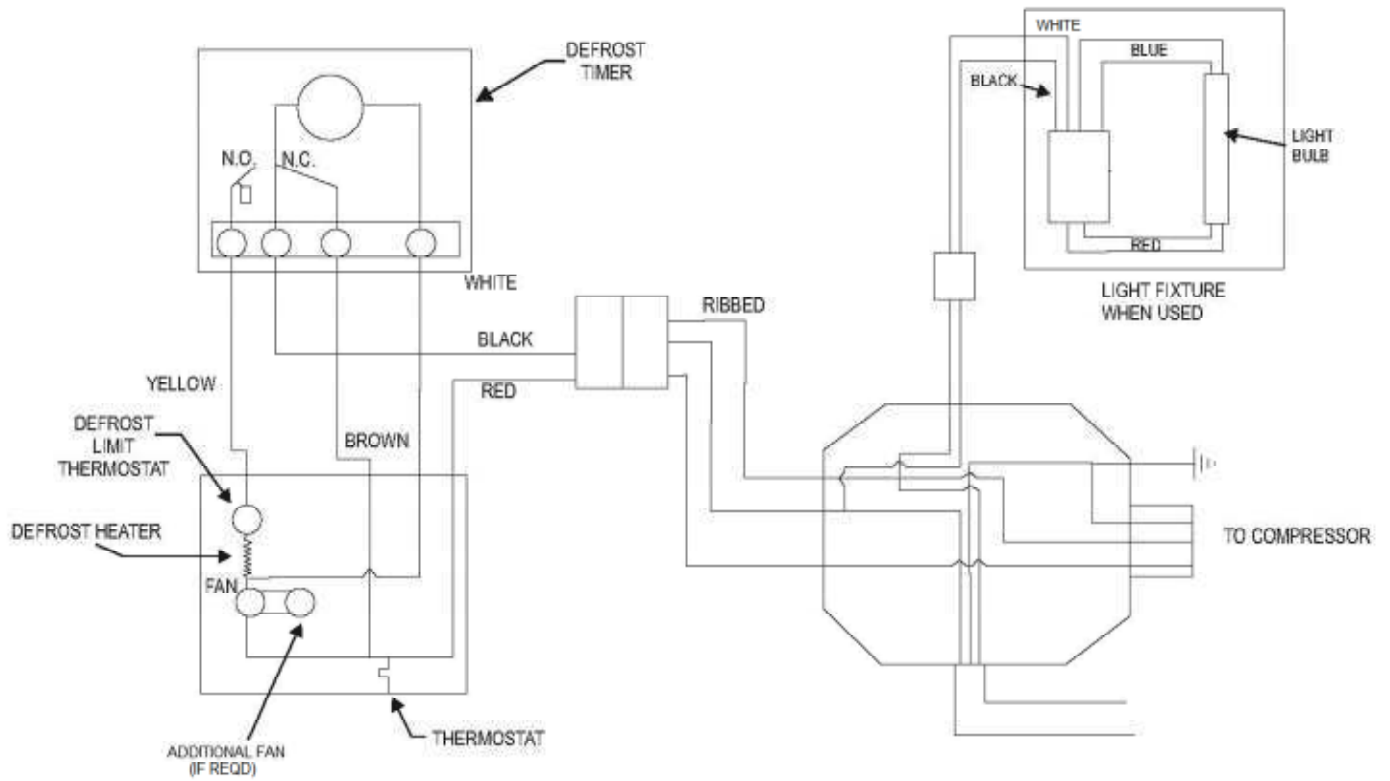
V. COLDWALL WIRING DIAGRAM



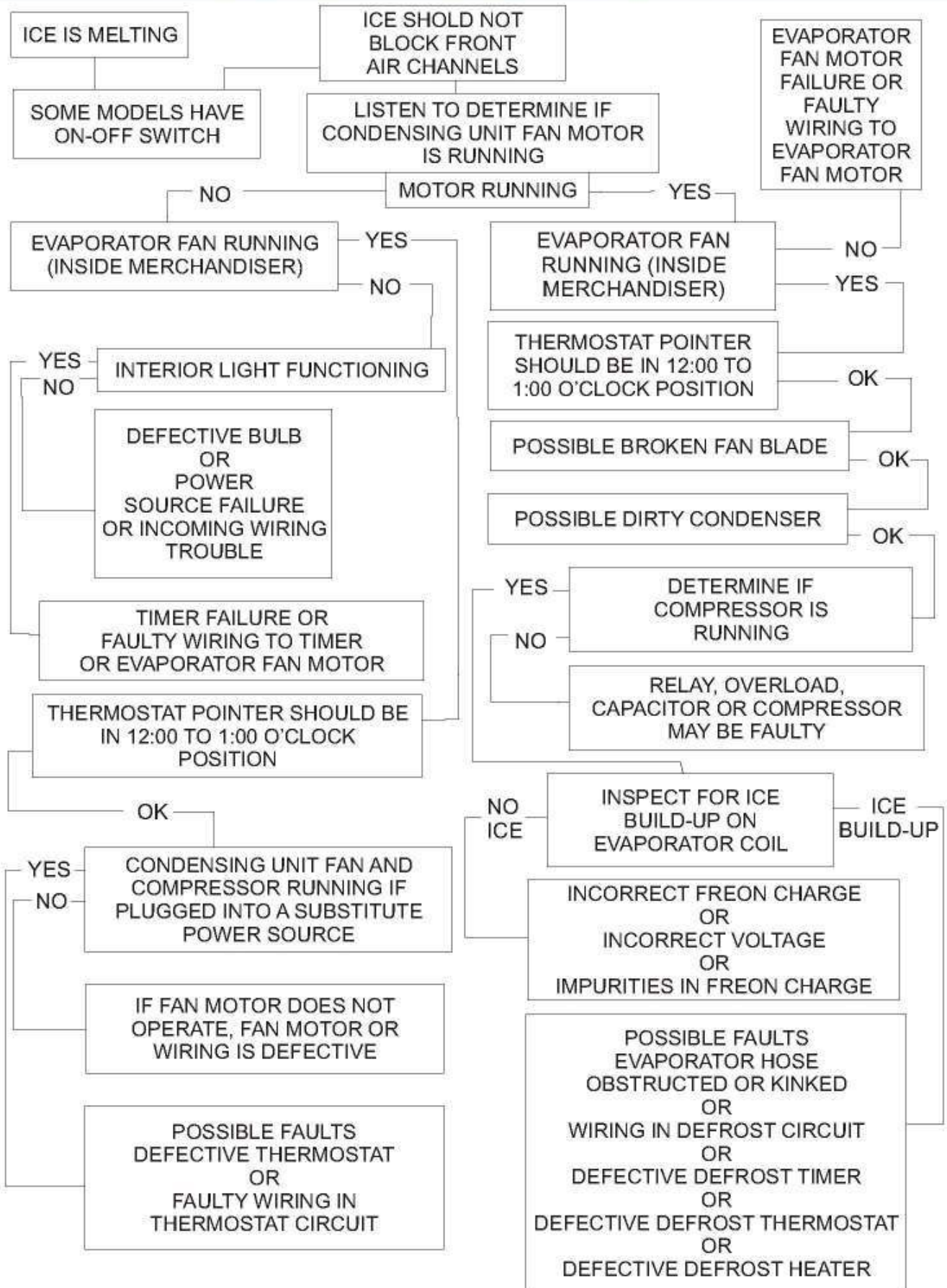
VI. COLD WALL TROUBLESHOOTING FLOWCHART



VII. AUTO-DEFROST WIRING DIAGRAM



VIII. TROUBLESHOOTING FOR COLDWALL MERCHANDISER



IX. REPLACEMENT PARTS

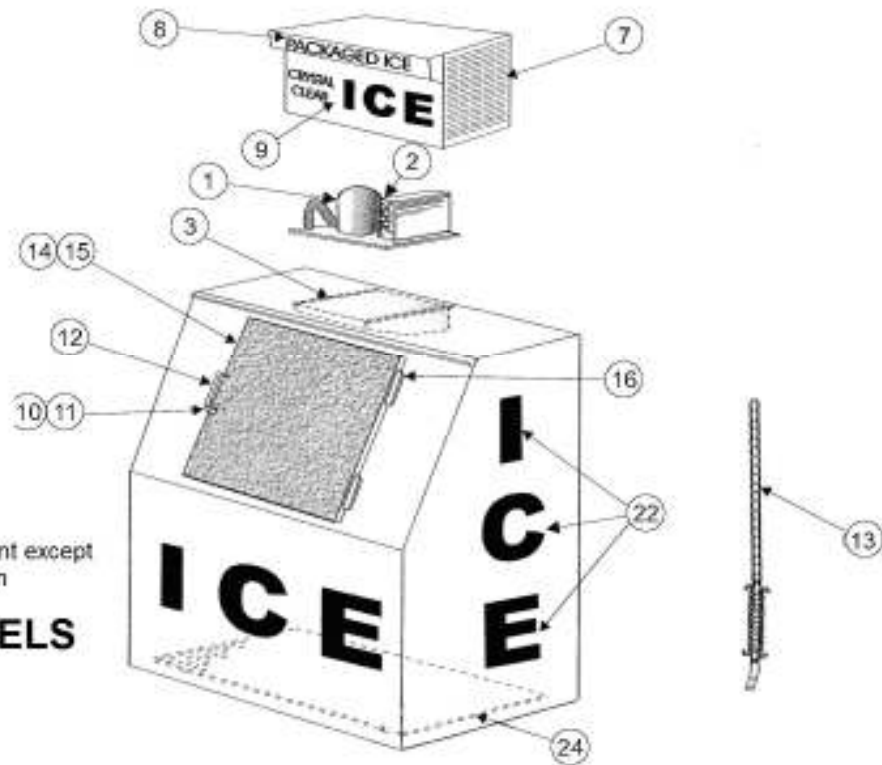
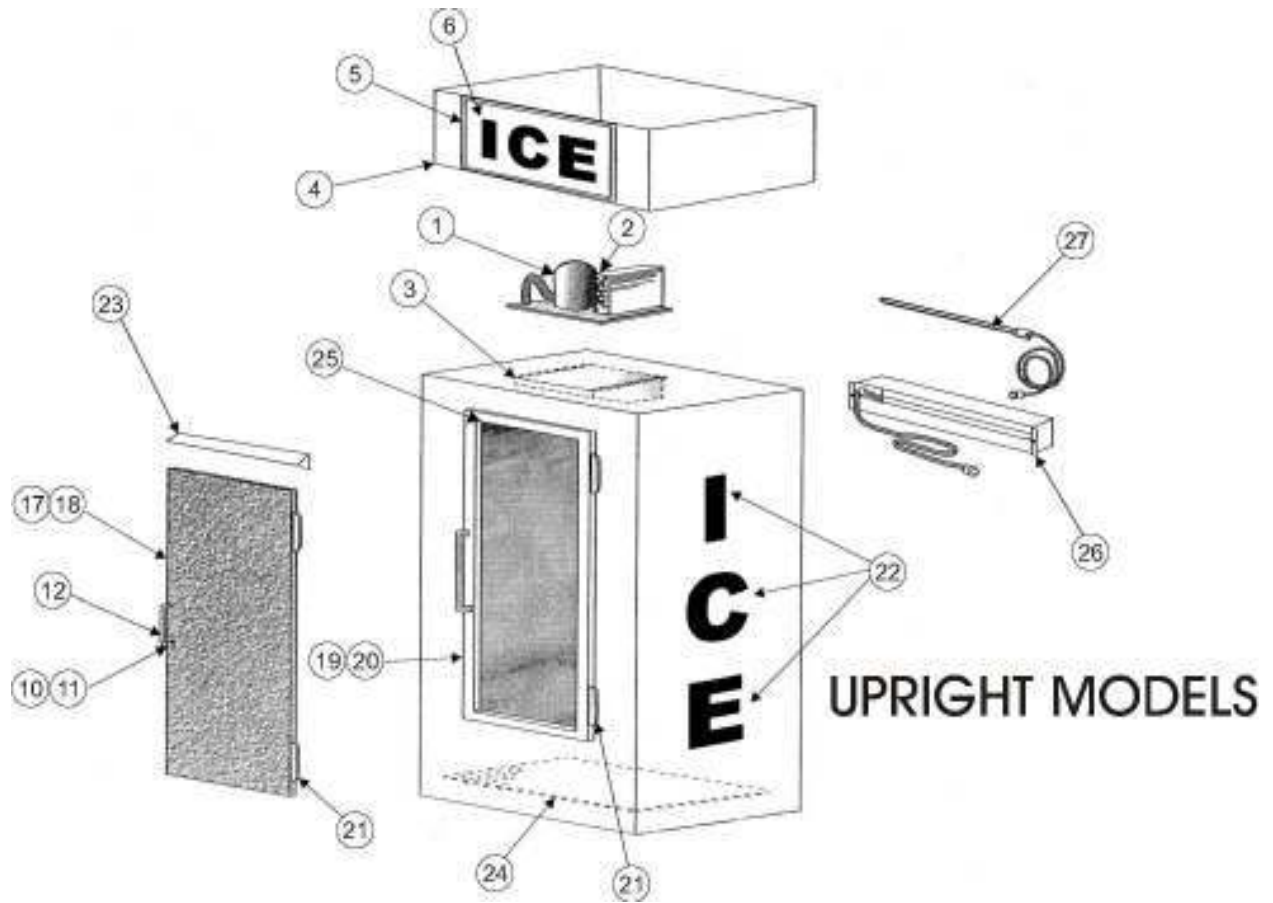
| <u>ITEM</u> | <u>DESCRIPTION</u> | <u>PART #</u> | <u>ITEM</u> | <u>DESCRIPTION</u> | <u>PART #</u> |
|-------------|--------------------------------------------------------|---------------|-------------|------------------------------------------------------------------|---------------|
| 1. | Condensing Unit: Provide condensing unit model number | | 14. | Door, Stucco Stainless Steel 27" x 27" with gasket | 5590025 |
| 2. | Drier | 1323002 | 15. | Door Gasket for 27" x 27" solid door | 1030016 |
| | Timer | 1328023 | | | |
| | Thermostat | 1328046 | 16. | Door Hinge with cover for 27" x 27" solid door | 1911019 |
| | Power Harness (AD & CW) | 1270047 | | | |
| | Coldwall Adapter Harness | 1270043 | 17. | Door, Stucco Stainless Steel 27" x 46" with gasket | 5590030 |
| 3. | Unit Cooler Evaporator Parts: | | 18. | Door Gasket for 27" x 46" solid door | 1030014 |
| | Fan Guard | 1396023 | 19. | Glass Door, 28" x 47" Silver Frame | 1412012 |
| | Fan Blade | 1392008 | | Glass Door, 28" x 47" Gold Frame | 1412013 |
| | Fan Mounting Bracket | 1101401 | 20. | Door Gasket for 28" x 47" glass door | 1490007 |
| | Fan Motor | 1393029 | 21. | Door Hinge for 28" x 47" door: | |
| | Defrost Limit Thermostat | 1328003 | | Silver w/spring & cover | 1911002 |
| | LCL 120 Defrost Heater | 1261007 | | Gold w/spring & cover | 1911022 |
| | LCL 170 Defrost Heater | 1261008 | | Silver Cover | 1990008 |
| | LCL 190/280 Defrost Heater | 1261009 | | Gold Cover | 1990009 |
| 4. | Full Top Enclosure: Provide merchandiser model number. | | | Spring Kit | 1990002 |
| 5. | "ICE" Decal for full top (Red) | 1070076 | 22. | "ICE" Decals (Red) One Set "ICE" | 1070074 |
| | "ICE" Decal for full top (Blue) | 1070069 | | Decals (Blue) One Set | 1070070 |
| 6. | "ICE" sign for full top (Red) | 5991021 | 23. | Rain Shield for 27" x 46" solid door | 5120076-1 |
| | "ICE" sign for full top (Blue) | 5991022 | 24. | Ice Pallet 22" x 28" | 1050079 |
| 7. | Cover w/o flasher assy. and decals | 5840035-5 | 25. | Fluorescent Light Fixture (w/bulb) | 5239006 |
| | Cover w/flasher assy. and decals | 5849000-5 | | Fluorescent Bulb | 1216005 |
| 8. | "Packaged Ice" Decal. | 1070077 | 26. | Condensate evaporator assy. for automatic defrost models (White) | 5349040 |
| 9. | "Crystal Clear" Decal (Red) | 1070075 | 27. | Condensate evaporator, heater rod | 1261004 |
| | "Crystal Clear" Decal (Blue) | 1070071 | 28. | Skid Plate | 1050005 |
| 10. | J-Bolt for all solid doors | 1160008 | | | |
| 11. | Door Hasp for all solid doors | 5120001 | | | |
| 12. | Door Handle for all solid doors | 1914001 | | | |
| 13. | Check Chain for 27" x 27" solid door | 1915001 | | | |

Provide Leer merchandiser Model number and Serial number for accurate processing of parts orders.

Return only authorized parts to this address:

MASTER-BILT Products
908 Highway 15 North
New Albany, MS 38652

NOTE: Leer electrical and refrigeration parts are all U.L. recognized and installed to comply with U.L. merchandiser product listings. Replacement of parts that are not U.L. recognized and not installed per original assembly will void merchandiser U.L. listing and Factory warranty per "General Provisions.



Note:
LP models similar to slant except
for refrigeration location



908 Hwy. 15 North • New Albany, MS 38652 • 800-647-1284/662-534-9061 • FAX: 800-232-3966
 Warranty Parts & Service: 800-684-8988 • FAX: 866-882-7629

LIMITED ONE-YEAR PARTS & LABOR WARRANTY FOR THE FOLLOWING CABINET MODELS:
 BGR, MSC, MSF, IM, MBBB, MBBC, MBC, MBCB, MBDD, MBR, MBF, MBGR, MBPT, MBSP, MBSMP,
 MBUF, MBUR

Master-Bilt Products (the "Company") warrants to the original purchaser-user that its refrigeration equipment, at the time of delivery, will be free from defects in material and workmanship. Master-Bilt will bear the reasonable and customary labor expense to repair or replace any component part (including said part) found to be defective under the terms and conditions as outlined under Master-Bilt's standard one (1) year parts warranty. The purchaser-user will have the sole responsibility and bear all expenses of removing and returning the defective part or equipment. Master-Bilt will reimburse said labor expenses to the original purchaser only if after evaluating the original service invoice submitted by the original purchaser-user Master-Bilt determines that this warranty applies. The labor warranty shall apply only to self-contained equipment installed by authorized or approved Master-Bilt dealers, distributors, service companies or refrigeration contractors. The labor warranty does not cover the cost (parts or labor) of installation, start-up, normal maintenance, or normal control adjustment. Your local compressor supplier should exchange the compressor at no charge during first year warranty. Claims under this Warranty must be submitted electronically by the Service Company within 90 days from the date of repair. Claims not filed within this time frame will be subject to denial without prior approval. To submit a claim you must have a Master-Bilt serial number.

Any defects caused by misapplication, abnormal use or misuse, lack of or improper maintenance, damage by third parties, alterations, acts of God; failure to follow installation, maintenance or safety instructions or any other event beyond the control of the Company will not be covered under this Warranty.

The obligation of Master-Bilt shall be limited to repairing or replacing (at the option of the Company) any part, which is defective in the reasonable opinion of the Company. The cost of service labor reimbursed will be based on straight-time rate and reasonable time for the repair of the defect.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall the Company be liable for loss of use, revenue or profit or for any other indirect, incidental, special or consequential damages including, but not limited to, food spoilage or product loss.

This warranty shall apply only within the continental United States, its territories and possessions, Canada and Mexico.

EXTENDED FOUR-YEAR COMPRESSOR REPLACEMENT WARRANTY

The Company warrants to the original purchaser-user that it will replace the compressor on the Equipment if found, in the reasonable opinion of the Company, to be defective in material or workmanship if written notice is received within five years from date of shipment.

Defective conditions caused by abnormal use or misuse, lack of or improper maintenance, damage by third parties, alterations, acts of God, failure to follow installation, maintenance or safety instructions or any other event beyond the control of the Company will not be covered under this warranty.

The compressor replacement warranty does not apply to any part of the equipment other than the compressor. The purchaser-user will have the sole responsibility and bear all expenses of removing and returning the defective compressor to the Company as well as the cost of reinstalling the replacement compressor. The Company may satisfy its obligations hereunder by supplying a replacement compressor, which is reasonably similar in design and capacity.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall the Company be liable for loss of use, revenue or profit or for any other indirect, incidental, special or consequential damages including, but not limited to, losses involving food spoilage or product loss.

This compressor replacement warranty shall apply only within the continental United States, its territories and possessions, Canada and Mexico.

REPLACEMENT PART WARRANTY

Master-Bilt warrants to the original purchaser-user that all parts purchased after the first year warranty period will be warranted for 90 days from invoice date.

Shipment Date:

Serial Number:
